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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/075,387	02/15/2002	Jay H. McCandless	HAR66 816 CONT	9309

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EXAMINER

WIMER, MICHAEL C

ART UNIT PAPER NUMBER

2821

DATE MAILED: 11/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/075,387

Applicant(s)

MCCANDLESS ET AL.

Examiner

Michael C. Wimer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2002.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 40-90 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 60-62, 89 and 90 is/are allowed.
- 6) ☒ Claim(s) 40-59, 63-78 and 81-88 is/are rejected.
- 7) ☐ Claim(s) 79 and 80 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 August 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 63-67 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 63, the added language "difference between" is not at all understood.

What is a polarization difference? How and why is there a difference between the coupler and waveguide? This new language does not appear to read on the disclosure. Clarification is required in order for a complete and operable device to be defined by the claims.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 40-59,63-67,83-86 and 88 are rejected under 35 U.S.C. 102(b) as being anticipated by Nuding et al (4311973).

Regarding Claims 40-59,63-67,83-86 and 88 Nuding et al show a system and method for coupling two signal paths with two polarizations in the microwave (GHz) range, comprising means (1,2) for coupling first and second paths and means (defining a polarization plate) for rotating the polarization (7,8) of the signals in a plurality, two, equal-amount increments (0 and 45 degrees) where

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the polarizations are equal in magnitude and opposite in rotational direction, all arranged as claimed. The polarization is the same in the position where the waveguides are parallel. Orthogonal polarizations are shown in Fig. 1 at "II" and "III". With a continuous rotation of the plate, it is clearly shown that any increment (e.g., in degrees) is selected. Further regarding Claims 57-59, the coupler 7 is configured to effect substantially equal and additive changes in the polarizations at the junctions of the two waveguides. The changes oppose each other by virtue of different polarizations.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 68-78, 81, 82 and 87 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nuding et al (4311973) in view of Seavey (4065772).

Regarding Claims 68-82 and 87, Nuding et al show a waveguide system for propagating a microwave (GHz) signal which enters the system oriented with a first polarization and exits the system at a second polarization, the system comprises, a first waveguide 2 coupled to a plate, a second waveguide 1 coupled to a plate. No polarization plate appears to be taught. Thus, Seavey shows a polarization plate 12 with an offset slot oriented 45 degrees and similar in

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geometry to the waveguide coupling and couples to an antenna to provide the desired polarization change. The plate is adapted to be coupled to that waveguide feeder as in Nuding et al. It would have been obvious to the skilled artisan to employ the polarization plate 12 and antenna of Seavey in the waveguide coupling of Nuding et al, for the purpose of providing circular polarization. A desired impedance occurs due to the coupling aperture/slot that couples the signals.

6. Claims 79 and 80 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Applicant's arguments filed 8/14/2002 have been fully considered but they are not persuasive. Specifically, as noted above, since Nuding et al show a continuously variable or rotating polarization plate, any incremental polarization is clearly obtained. The polarizations are defined and formed as claimed. Polarization changes are effected each time the plate is rotated, in each step as performed, and as desired. Thus, the claim language with regard to respective claims is met by the reference. Regarding the remarks to the obviousness rejection, the Seavey reference is cited to resolve the level of ordinary skill in the antenna art and as evidence of obviousness. A specific plate is shown by Seavey and is cited for that reason. In Nuding et al, flanges are included at the ends of the waveguides, rather than a coupled plate. The flanges suffice for the plate recited in the method claim 83. The references are fully combinable because Seavey particularly shows the antenna horn where a waveguide junction is employed.

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Nuding shows such a junction to be obvious to employ therein. Since the claimed structure has been shown and evidence of obviousness has been set forth, it is not seen how the claims of record define over the prior art.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Wimer whose telephone number is (703) 305-3555. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don K. Wong can be reached on (703) 308-4856. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Michael C. Wimer
Primary Examiner
Art Unit 2821

MCW
October 23, 2002